PATENT ABSTRACTS OF JAPAN

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(21)Application number : **09-299944**

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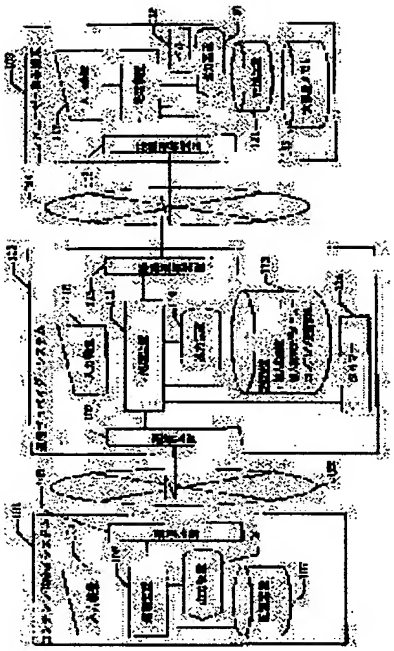
(71)Applicant : **HITACHI LTD**

(72)Inventor : **MIZUTANI SEKI**

(54) **INFORMATION DISTRIBUTION SYSTEM**



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PROBLEM TO BE SOLVED: To distribute latest contents of deeply concerned information by the user and updated timely to a portable terminal of the user and to store the information automatically.

SOLUTION: A communication provider 102 distributes the contents of information desired by a user with a timing desired by the user, based on information registered in advance by the user and stored to a large capacity memory 122 of a portable terminal (including a portable telephone set and PHS) 103 automatically, in accordance with the method of a rule decided. The user can acquire the contents of special concern to himself by reproducing repetitively the stored contents at preferred times many number of times.

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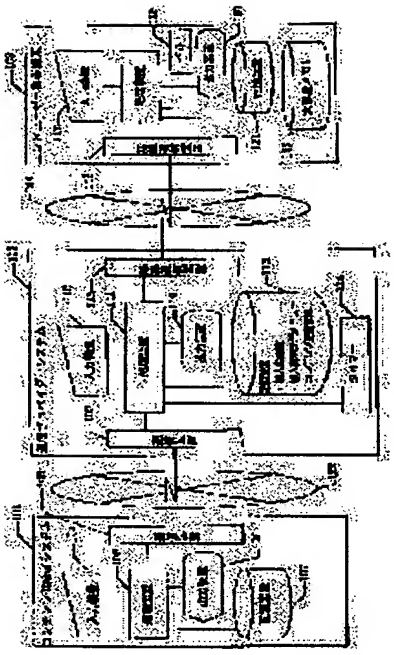

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CLAIMS

[Claim(s)]

[Claim 1] The communication link provider system which distributes various kinds of information to a user, and the end user terminal which receives the information distributed from this contents feeder system, and is stored, It is the information distribution system which comes to have the communication network which transmits information between said communication link provider systems and end user terminals. Said communication link provider system The informational menu with which each end user wishes to distribute for every end user, Have the storage means which registered the timing wishing distribution of this information, and the information which should be distributed to the end user terminal which each end user has based on the information registered into this storage means is distributed according to said timing wishing distribution. Said end user terminal is an information distribution system which receives the information distributed from said communication link provider system, carries out sequential are recording at the memory prepared in this end user terminal, and is characterized by outputting the information accumulated according to the directions from an end user.

[Claim 2] Said end user terminal is an information distribution system according to claim 1 characterized by being the telephone which said end user can carry and said communication network being the telephone line.

[Claim 3] Said communication link provider system is an information distribution system according to claim 1 characterized by distributing the same information to the subscriber of the same attribute based on the rule which was equipped with a storage means to hold the hysteresis of the attribute information showing an end user's property , and the information which wished to distribute in the past , and was beforehand decided about said end user's each .

[Claim 4] Said communication link provider system is an information distribution

system according to claim 1 which is the time zone with which are satisfied of said timing wishing distribution, and is characterized by distributing the information concerned in the time zone when the load of said communication network becomes the lowest based on the load information which predicted the load for every time amount of said communication network prepared beforehand, and said said timing wishing distribution.

[Claim 5] Said end user terminal registers the elimination approach and sequence of the information beforehand specified by the end user. the time of reception of new information -- the inside of said memory -- this, when there is no storage region which can store new information The information distribution system according to claim 1 characterized by storing said new information using the storage region which deleted the information memorized by said memory according to said method of method of elimination and sequence, and became available by the deletion concerned.

[Claim 6] Said end user terminal is the information distribution system according to claim 2 which an addresser's telephone number notified from said telephone line at the time of arrival of the mail is acquired, and the call which received a message based on this telephone number distinguishes whether it is a call from said communication link provider system, and starts informational reception and is characterized by to store the received information in said memory, without calling an end user when the call which received a message is a thing from said communication link provider system.

DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to an informational distribution system, and relates to a suitable information distribution system to distribute contents automatically according to the priority of the contents of which the end user who is the owner of a personal digital assistant expects reception especially using a mobile telecom terminal.

[0002]

[Description of the Prior Art] In recent years, service which receives the deep information on its interest using the portable mobile telecom terminal of a cellular phone, PHS, etc. is offered. For example, speech information, such as traffic, the weather, news, leisure information, a share, and exchange, is already offered as service

of each communication link provider company as indicated by "mobile communications business" (Nihon Keizai Shimbun version) P.89. It holds great expectations from such service making a commercial scene new also for a communication link provider.

[0003]

[Problem(s) to be Solved by the Invention] Conventionally, with such service, a user needs to access to the service each time, when you wish informational acquisition. Moreover, even if it says to news and a mouthful, since each user's concerns differ, they have not replied to the needs to acquire only the deep contents of one's interest. Furthermore, the voice quality transmitted from constraint of a communication line rate is low, and is not necessarily satisfactory with playing music etc. And it is the actual condition which is hard to be referred to as having spread through such data utility which there is still feeling of a comparatively high price also especially in respect of a communication link tariff in the case of mobile communications, and needs access of long duration greatly from it being anxious about a large sum communication link tariff.

[0004] In the newest thing, providing at a reasonable price is called for about the deep information on the interest which every user is searching for from such a thing, without giving a user's troublesomeness.

[0005] Generally, although it is said [acquire / to a certain same concerns / then / with the sudden thing which need generates / the contents newest every day] that it **s, two kinds of needs exist in the information which a user asks for acquisition. Especially old data utility was not what was not necessarily suitable for realizing the latter service.

[0006] Without a user sensing troublesomeness by storing in the personal digital assistant with which it distributes to the user who wishes acquisition of the contents, and a user holds the contents about specific concerns automatically in view of the trouble in the conventional technique mentioned above, the object of this invention is to enable it to access only the needed contents, when you like.

[0007] Moreover, other objects of this invention are to enable it to send by the time amount a user expects the updated newest contents.

[0008]

[Means for Solving the Problem] In order to attain the above-mentioned object, a user enables it to receive the deep contents of the user's interest especially in this invention by choosing the information contents of which a user expects acquisition beforehand from the menu which a communication link provider offers, and registering them. The distributed contents are stored in the memory given to a personal digital assistant which is represented by a cellular phone and PHS, and a user makes it possible to reproduce the stored contents, when you like in your favorite place. Furthermore, when

this memory is filled by the contents which already received, unnecessary contents are eliminated according to the rule beforehand specified by the user. Moreover, arrival-of-the-mail advice of the sent contents sounding the bell which tells arrival of the mail like [so that it may be stored automatically, without a user being conscious / when receiving the usual telephone] performs control which is not performed. Reduction-ization of a transmitting tariff is attained by transmitting contents to the time amount which a network is most crowded between the time amount which wishes acquisition of the contents which the user furthermore specified, and the time amount by which contents were updated, and is assumed that condition is low.

[0009]

[Embodiment of the Invention] Drawing 1 is system configuration drawing showing the structure of a system in the gestalt of one operation of the information distribution system in this invention.

[0010] 101 is one of the contents feeder systems, 102 is a communication link provider system, and 103 is one of the end user terminals. Two or more contents feeder systems 101 and end user personal digital assistants 103 are connected to the communication link provider system 102 through communication networks 123 and 124. Networks, such as a public line and a dedicated line, can be used as a communication network 123. Moreover, as a communication network 124, the mobile communication network using radio system, such as a cellular phone and PHS, is used. In drawing 1 , although, as for the contents provider system 101 and the end user terminal 103, only one is illustrated at a time, respectively, two or more connection of these can be made, respectively.

[0011] Each system has processors 105, 111, and 118, input units 104, 110, and 117, output units 106, 112, and 120, and storage 107, 113, and 121 respectively. Moreover, in order to communicate with the communication link provider system 102 through a communication line 123, the contents feeder system 101 has the radio communication equipment 116, in order that the end user personal digital assistant 103 may communicate a communication device 108 through the communication link provider system 102 and a communication network 124. The communication link provider system 102 is equipped with ****** for the radio communication equipment 115 for communicating with the communication device 109 for communicating with the contents provider system 101 and a communication line 123, and the end user personal digital assistant 103, and a timer.

[0012] Moreover, especially the end user personal digital assistant 103 is equipped with the bell 119 which tells arrival of a call. This is the same configuration as mobile telecom terminals, such as the existing cellular phone and PHS. Furthermore, the end

user personal digital assistant 103 holds the mass memory 122. It is possible to use an IC card, a flash memory MD, etc. for this bulk memory 122. Since the received contents are stored, this bulk memory 122 is used. And this memory can be renewed. Contents for especially this to save are kept or it also becomes possible to edit by using another editor. The external view of such an end user personal digital assistant is shown in drawing 2 . In drawing, it is a display screen for 201 functioning as one of the output units 120, and displaying text, and 202 is storage of the card mold which is removable, for example, contained the flash memory used as a bulk memory 122. Furthermore, in order to acquire speech information comfortably, a personal digital assistant 103 is equipped with the headphone which are not illustrated, and may be constituted.

[0013] The operation processing in the information distribution system in the gestalt of this operation separates to two greatly. One is the operation of registration and edit and another is distribution and reception.

[0014] Drawing 3 is a flow chart which shows the flow of the operation of registration and edit.

[0015] First, a user accesses to the data utility dial of the communication link provider system 102 using the end user personal digital assistant 103, and connects the end user terminal 103 and the communication link provider system 102 (step 301).

[0016] After connection with the end user personal digital assistant 103 is checked, the communication link provider system 102 transmits the menu list of data utility dials. This shows the list of the keywords for choosing the contents which the data utility dial holds (step 302).

[0017] An end user terminal's reception of a menu list displays advice of contents on the display screen 202. A user chooses the contents which especially a him wants to acquire from the displayed menu lists, and chooses it from menus (step 303). Selection of a contents menu performs registration of the priority with contents so that a user can acquire the contents according to liking of him efficiently (step 304). Transition of the display screen shows an example of the flow of the registration performed to drawing 4 at steps 303 and 304. Here, if especially a user chooses the contents about a sport from a menu as high contents of a priority (Screen 401), the class of sport which asks the hierarchy of this low order will be displayed as a menu (Screen 402). Screen 402 liking reception of the contents about baseball most also in contents concerning [a user] a sport, and then liking reception of the contents about soccer is shown. Then, registration of the priority in low-ranking level is further performed about each of the selected content. Screen 403 shows most the screen which registers the priority about a professional baseball team as a low-ranking hierarchy further about the high baseball

of a priority, and having liked the contents about A professional baseball team most, and then demanding the contents about B professional baseball team is shown by here. Thus, when a user registers beforehand the priority of the contents which he demands, it becomes possible to acquire the information which he is searching for more efficiently. When the capacity of contents is still larger than the bulk memory for contents storing which an end user personal digital assistant holds, a system performs automatic storing from the high thing of especially a priority with reference to this priority. It becomes easy for a user to acquire the high contents of especially his interest from such a thing.

[0018] If selection of contents and registration of a priority end next, in step 305, registration of the transmitting mode of a contents menu which wishes to distribute will be performed. In this processing, the information whether a user wants by when to acquire the contents which wish to receive is registered. In the gestalt of this operation, although it was called the contents updated for every day or every fixed time amount rather than the information retrieval in real time, for example, news, the information on stock, etc., acquisition is considered to be the main object. usually, the keyword which has a user's interest in the case of such a genre -- dynamic -- not changing -- a user -- the fixed point -- wanting to access the newest information on the same keyword-like is common. So, in this system, once it registers, the rest will build the structure to which the contents newest to the timing of hope are distributed. The information to which timing new contents are acquired is needed in that case. At this step, it registers to which timing a user wants to acquire new contents by selection of a transmitting mode. An example of transition of the registration screen is shown in drawing 5 . Here, it has chosen to which timing he wants to acquire the contents about A professional baseball team. whenever [of the renewal of 1. contents as a menu of transmit timing on Screen 501] -- 2. -- time of day fixed every day -- during [every] 3. per hour -- by 4. appointed time of day -- etc. -- ** -- what was said is shown. For example, if a user chooses "4. by the appointed time of day" in this screen, the display screen will change on Screen 502 and the screen which inputs the time amount which wishes to acquire for wanting by when to acquire contents further will be displayed. When a user specifies time amount with this display screen, a user becomes possible [that the newest contents always come to hand to that assignment time amount]. If it was specified as 07:00 a.m. here, a user can move hearing the newest contents about his favorite A professional baseball team in the electric car on the way of commutation every day.

[0019] At continuing step 306, registration of the washout mode of a contents menu which wishes to distribute is performed.

[0020] The timing which eliminates the acquired contents is registered at this step. The

memory 122 which an end user's personal digital assistant holds since contents are stored is the magnitude of finite. For this reason, the availability of memory 122 of when it is will be lost. Then, this problem is solved by eliminating an unnecessary thing and enabling it to overwrite in the already acquired contents. Here, in order to enable it to perform such processing automatically, the user registers the timing of elimination of the contents beforehand. The transition image of the registration image transcription side in this processing is shown in drawing 6 . Here, it has registered whether I may eliminate the contents about A professional baseball team any time. In Screen 601, as timing of elimination, "1. after hearing it" (you may eliminate, once it hears it), 3. "2. the next day" (you may eliminate, as long as the next day comes), and after ["O time amount after" (you may eliminate, if fixed fixed time amount passes)], "4. the following contents arrival time" (you may eliminate, if the next contents of the same genre are received), etc. and the performed elimination timing are displayed as a menu. Here, supposing a user chooses "3. O time amount back", an input screen will change to Screen 702 which specifies the time amount to elimination. A user specifies the time amount to elimination with this screen.

[0021] In each registration processing mentioned above, various kinds of information is registered into the contents table 700 wishing distribution shown in drawing 7 according to selection by the user, and assignment. Member No.701 are set to the contents table 700 wishing distribution as an index, and the assignment time amount 707 in case the assignment time amount 705 in case the contents menu 703, a transmitting mode 704, and a transmitting mode are time amount assignment in order of a priority 702, washout mode 706, and washout mode are elimination after fixed time amount is registered into it. The created contents table 700 wishing distribution is transmitted to the communication link provider system 102 at step 307.

[0022] The communication link provider system 102 will perform edit filing according to a subscriber based on the information set as the contents table 700 wishing distribution, and the contents table 700 wishing distribution transmitted from an end user's personal digital assistant 103 will create the contents list wishing [classified by subscriber] distribution, if received by the communication link provider system 102 (step 308) (step 309). The contents list wishing [classified by subscriber] distribution is created for every subscriber, and is stored in storage 113. Drawing 8 is table format drawing of the contents list wishing [classified by subscriber] distribution.

[0023] The contents 803 to distribute, the address 804 of the storage place of the contents, the necessary byte count 805, the transmitting mode 806 that a user wishes, the time of day 807 which wishes to receive a message, washout mode 808, and the

assignment elimination time of day 809 are set to the contents list 800 wishing [classified by subscriber] distribution in priority of distribution 802 order by making member NO.801 into an index.

[0024] Next, processing (step 310) for choosing the contents which a communication link provider wants to distribute for every user apart from the contents which a user wishes, and adding to the contents which transmit is performed. Thus, as contents which transmit, things, such as advice from a provider, and special menus, an advertisement, can be considered, for example. Here, based on the attribute data in which a user's attribute beforehand registered for every user is shown, suitable contents, a suitable advertisement, etc. are chosen as each user according to the rule decided beforehand, and additional registration is carried out at the contents list 800 wishing [classified by subscriber] distribution.

[0025] Drawing 9 is table format drawing showing an example of a subscriber attribute table which stored the attribute data for every user.

[0026] Phycho like DEMOGURAFIKKUDETA 902 and the hobby which the subscriber attribute table 900 makes member NO.901 an index, and show ********** attributes, such as a subscriber's name, age, sex, an occupation, and family structure, -- the Phycho logical data 903 in which a graphical attribute is shown, and the old search history information 904 are included. At step 310, the suitable contents for the user are chosen based on such information, and this is added to the contents menu of the table 800 according to subscriber.

[0027] At step 311, the information which contents are distributed when is edited and arranged to whom, and the distribution plan table classified by time amount is created. When contents are updated, whenever it transmits the contents to the candidate who wishes reception of the contents each time, those users can get the newest contents. However, a communication link tariff will cost dearly in that case. Then, the user specifies beforehand the time of day wishing arrival of the mail when he wants to acquire the contents, and if it transmits to the time zone when a communication link tariff is the cheapest in the ready-for-sending ability time zone between the time amount wishing arrival of the mail after contents are updated, he can get contents at a reasonable price. In this case, the effective activity of a communication link provider nearby circuit can be promoted.

[0028] Drawing 10 is image drawing of change of the amount of traffic of a day, and optimal delivery time decision processing. Generally, as for the load of a communication line, hour business of day ranges has much traffic, and midnight has them. [few] Then, this midnight communications traffic can transmit contents efficiently by using little

time amount. Here, the example of the decision of the delivery time to the user who wants to receive the contents updated at 15:00 every day by 9:00 every morning is shown. In this case, what is necessary is just to deliver contents from 15:00 before 9:00 of the next morning. Let this time amount be the ready-for-sending ability time zone 1001. In this, contents are distributed to this time amount supposing the time amount 1002 predicted that there are few loads of the whole communication line. The flow of this optimal delivery time decision processing is shown in drawing 11 .

[0029] If contents are that updating occurs, the advice will be sent to a communication link provider system from a contents feeder system (step 1101). Then, the table wishing [classified by contents] distribution on which the user who wishes reception of the contents which updating generated is cut down is read. It can know which user wishes acquisition of the contents by when by this (step 1102). Table format drawing of the table wishing [classified by contents] distribution is shown in drawing 12 .

[0030] The table 1200 wishing [classified by contents] distribution holds the information about the distribution for every [which is contents-name/ contents-No(ing), . /-distributed] user which wishes distribution of the contents for every contents, as shown in drawing. concrete -- each -- a transmitting mode 1203 and the time of day 1204 wishing arrival of the mail are held about contents No.1201 and the contents name 1202 every telephone number (TEL No.) 1205 of the user who wishes distribution of the contents, and the decision distribution time amount 1206 on which it decides by the following processings is registered.

[0031] Next, ejection and a transmitting mode 1203 judge whether it is distribution (value "1") for the information on one entry from the table 1200 wishing [classified by contents] distribution each time at the time of renewal of contents (step 1103). If a transmitting mode 1203 is not distribution each time at the time of renewal of contents, it will judge whether whether there being any time amount sufficient from the time of day set as the time of day 1204 wishing transmitting to a user's time of day wishing arrival of the mail and "the time-of-day-current time wishing arrival of the mail" are larger than the time amount set up beforehand (step 1104).

[0032] In step 1104, if it is judged that there is time amount of enough till the time of day wishing arrival of the mail, in order to distribute contents at the time of day expected that there are few loads of the whole communication line, delivery time will be determined before the time of day which wishes to receive a message using the distribution plan table classified by time zone (step 1106). An example of the distribution plan table classified by time zone used for drawing 13 by this processing is shown.

[0033] The total value 1304 of the anticipation traffic 1302 which is the load of a call with which the distribution plan table 1300 classified by time zone is expected every time zone 1301, the amount 1303 of distribution of the contents currently planned in the time zone, and the anticipation traffic 1302 and the amount 1303 of distribution is registered. Using this table, in the ready-for-sending ability time zone by the time of day when it is expected of distribution of contents, a total of 1304 chooses fewest time zones, and decides on that time amount as distribution time amount at step 1106. Decision of distribution time amount sets the distribution time amount on which it decided as the decision delivery time column 1206 of the table 1200 wishing [classified by contents] distribution.

[0034] Next, if there are whether the above processing having been performed about all the entries of the table 1200 wishing [classified by contents] distribution and an entry which distinguishes and remains, the processing after step 1103 will be continued further (step 1107). If processing is finished about all entries, based on the contents list 800 wishing [classified by subscriber] distribution, and the table 1200 wishing [classified by contents] distribution, the delivery information of contents will be set as the distribution plan table classified by time amount according to the transmitting time of day determined at step 1106 (step 1108). Thus, an example of the distribution plan table classified by time amount created is shown in drawing 14 .

[0035] As the distribution plan table 1400 classified by time amount is shown in drawing, the transmission place 1402, the contents menu 1403 distributed to the transmission place, the storing address 1304 of the corresponding contents, and a byte count 1405 are set up every air time 1401. Distribution of contents will be performed if the corresponding time of day comes according to the distribution plan table 1400 classified by time amount to users other than the user to whom transmission was able to be managed with step 1105. About the detail of distribution of contents, it mentions later.

[0036] On the other hand, when a transmitting mode 1203 is a transmitting mode instancy at step 1103, and when it is judged at step 1104 that there is no time amount sufficient till the time of day wishing arrival of the mail, according to TEL No.1205, contents are transmitted to a user (step 1105) and it moves to processing of step 1107.

[0037] Drawing 15 is a flow chart which shows the flow of distribution and reception.

[0038] When the time of day which should be transmitted according to the distribution plan table 1400 classified by time amount comes, contents are updated, and when transmission is required instancy, a processor 1111 is transmitted to the user who contents transmitting processing for transmitting the contents by which scheduling was

carried out was carried [user] out, and had the specified contents specified (step 1501).

[0039] The end user personal digital assistant 103 receives the transmitted contents automatically (step 1502). It is desirable to sound a bell like [when receiving the usual telephone], and not to receive, when transmission of contents is received from a communication link provider, but for the terminal to judge and keep it automatically. However, when a call is received, transmission of the contents from a communication link provider is not restricted, but it is not necessarily more common [it] rather to be the call of the usual telephone. So, at step 1502, reception is performed according to the flow chart shown in drawing 16 . Order is explained later on below.

[0040] The end user personal digital assistant 103 receives a call. At this event, it is not known whether this call is the usual telephone and whether it is transmission of the contents from the communication link provider system 102 (step 1601). The end user personal digital assistant 103 will distinguish whether the call is a thing from the communication link provider system 102 based on the telephone number offered by number display service etc., if a call is received (step 1602).

[0041] In step 1602, the offered telephone number is beforehand set up as a number of the communication link provider system 102, if it is checked that it is reception of the call from the communication link provider system 102, operation of the display for telling reception, a receiving bell, a lamp, etc. will not be performed, but processing will be shifted to processing (step 1503) of automatic storing of contents (step 1603). When performing such processing receives the call which transmits contents, a user is because it is not necessary to know the reception and the contents should just be automatically stored in the terminal.

[0042] On the other hand, if it is judged that it is not reception of the call from the communication link provider system 102, a display, a receiving bell, a lamp, etc. for telling reception will be worked as reception of the usual telephone, the receiving display function of a personal digital assistant 103 will be operated, and a user will be told about arrival of a call. Then, it shifts to the processing in the usual telephone (step 1604).

[0043] If the call from the communication link provider system 102 is received, the contents sent from the communication link provider system 102 are received, and the contents are stored in a bulk memory 122 (step 1503).

[0044] Although what is necessary is just to store the contents which received to the field which has only opened when the availability of a bulk memory 122 is fully left behind, when sufficient availability does not exist, it is necessary to make an availability from a certain form, or to overwrite. However, it will not be a desirable thing

if contents required for a user are sometimes erased freely. So, at step 1503, either of the contents [finishing / storing / already] is eliminated in accordance with the criteria beforehand specified by each user. The detailed flow chart of this processing is shown in drawing 17 . Order is explained for a detail later on below.

[0045] Here, the one packet of the minimum transmitting units of the sent contents with the highest priority is received first (step 1701). And it judges whether it is that there is sufficient capacity to store one packet which the availability of the memory which is current received, i.e., an "availability > receive packet", (step 1702).

[0046] When an availability is not enough, the existence of eliminable contents is judged with reference to an eliminable contents table. The eliminable contents table stores the eliminable flag which shows whether the byte count 1802, the storing place address 1803 in a bulk memory 122, and its contents are eliminable every contents name 1801, as shown in drawing 18 . The contents are judged [that it is eliminable and] when an eliminable flag is "1" (step 1703).

[0047] when eliminable contents cannot store from **** inside ** and the contents still transmitted still more, error MESEJI to that effect is displayed, and automatic storing processing of contents is ended (step 1707). On the other hand, if contents eliminable at step 1703 are found, the field for eliminating the contents and storing the new contents which received will be made, it will return to processing of step 1702, and processing will be continued (step 1704).

[0048] In step 1702, if it is judged that there is sufficient free area to store the packet which received, the packet which received to the field is stored (1705). And it investigates whether the following packet exists further (step 1706). When there is still a non-received packet, it returns to processing of step 1701 and the same processing is repeated, and processing of storing is ended when this is the last packet.

[0049] If the contents which received are stored in a bulk memory 122, a user will become possible [reproducing those contents, when you like, and taking out the content]. Playback of a repeat is also possible (step 1504). It is not transmitted to real time, and since contents take out what is already stored and are reproduced, they become possible [regenerating regardless of a transmission time] here. The data which needs large capacity for transmission like music becomes reproducible by the quality of loud sound from this by storing in advance.

[0050] Setting out of the eliminable flag 1804 is performed at step 406. At this step, the eliminable flag 1804 is set up according to the directions specified by registration (step 306) of the washout mode of a contents menu which wishes to distribute.

[0051] By the flow shown above, a user can store automatically in his own personal

digital assistant only the newest contents of which especially a him expects acquisition by registering beforehand, and it becomes possible to reproduce it any number of times in a location favorite when you like. Moreover, playback by the quality of loud sound can be enabled also for the information on music data etc. by transmitting contents for the transmission speed of the present network over many hours also as a premise beforehand.

[0052] Moreover, the mass data also for a communication link provider is needed, and the increment in an income can be expected by inducing new service. And it becomes possible from traffic being able to use few time zones, after considering the system operating status of the whole network to give one's service more efficiently.

[0053]

[Effect of the Invention] Especially a user becomes possible [accessing repeatedly what was automatically stored in its own personal digital assistant at the contents only about the contents of which he expected acquisition, when you like you].

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is system configuration drawing in the gestalt of one operation of an information distribution system.

[Drawing 2] It is image drawing of a personal digital assistant.

[Drawing 3] It is the flow chart which shows the flow of operation processing of registration and edit.

[Drawing 4] It is the screen transition diagram showing the example of the registration screen of the priority of a contents menu which wishes **.

[Drawing 5] It is the screen transition diagram showing the example of a registration screen of the transmitting mode of a contents menu which wishes to distribute.

[Drawing 6] It is the screen transition diagram showing the example of a registration screen of the washout mode of a contents menu which wishes to distribute.

[Drawing 7] It is table format drawing of the contents table wishing distribution.

[Drawing 8] It is table format drawing of the contents list wishing [classified by subscriber] distribution.

[Drawing 9] It is table format drawing of a subscriber attribute table.

[Drawing 10] It is image drawing of change of the amount of traffic, and optimal

delivery time decision processing.

[Drawing 11] It is the flow chart of optimal delivery time decision processing.

[Drawing 12] It is table format drawing of the table wishing [classified by contents] distribution.

[Drawing 13] It is table format drawing of the distribution plan table classified by time zone.

[Drawing 14] It is table format drawing of the distribution plan table classified by time amount.

[Drawing 15] It is the flow chart which shows the flow of distribution and reception.

[Drawing 16] It is the flow chart of the reception in an end user terminal.

[Drawing 17] It is the flow chart of the storing processing to the memory of receiving contents.

[Drawing 18] It is table format drawing of an eliminable contents table.

[Description of Notations]

101 -- Contents feeder system,

102 -- Communication link provider system,

103 -- End user personal digital assistant,

104, 110, 117 -- Input unit,

105, 111, 118 -- Processor,

106, 112, 120 -- Output unit,

107, 113, 121 -- Storage,

108 109 -- Communication device,

115 116 -- Radio communication equipment,

114 -- Timer,

119 -- Bell,

122 -- Bulk memory

[Translation done.]